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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,341	12/31/2003	Manish Seth	60732-300101	8224

7590 06/13/2007
Larry B. Guernsey, Esq.
Intellectual Property Law Offices
Suite 660
1901 S. Bascom Avenue
Campbell, CA 95008

EXAMINER

SANDERS, KRIELLION ANTIONETTE

ART UNIT	PAPER NUMBER
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1714

MAIL DATE	DELIVERY MODE
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06/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/749,341

Applicant(s)

SETH, MANISH

Examiner

Kriellion A. Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/27/07 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 17-36 rejected under 35 U.S.C. 102(e) as being clearly anticipated by Hemmings et al, US Patent no. 6,916,863.

The patented invention is a fly ash filler or filler blend that can be combined with a polymer at higher filler loadings to produce a filled polymer for polymer composites that can result in improved mechanical properties for the polymer composites as

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compared to polymer composites using conventional fillers. The resulting polymer composites can be produced at a lower cost than conventional polymer composites.

The filler blend preferably can be loaded in the filled polymer at a filler loading of greater than 20% to about 80% percent by weight. Various polymers can be used in the composite such as those selected from the group consisting of polyethylene, polypropylene, polyvinyl chloride,.

The filler can be a filler blend including fly ash and at least one additional mineral filler other than a fly ash. Suitable mineral fillers include calcium carbonate, aluminum trihydrate (ATH), milled glass, glass spheres, glass flakes, silica, silica fume, slate dust, amorphous carbon (e.g. carbon black), clays (e.g. kaolin), mica, talc, wollastonite, alumina, feldspar, bentonite, quartz, garnet, saponite, beidellite, calcium oxide, calcium hydroxide, antimony trioxide, barium sulfate, magnesium oxide, titanium dioxide, zinc carbonate, zinc oxide, nepheline syenite, perlite, diatomite, pyrophyllite and the like, or blends thereof. In this embodiment, the additional mineral filler is preferably calcium carbonate and the calcium carbonate is preferably combined with a high fine particle content fly ash filler such as a lignite or subbituminous fly ash (e.g. having a median particle size of 10 microns or less). The filler blend can include from about 0.1% to about 99.9%, more preferably about 10% to about 90% by weight of the fly ash and from about 99.9% to about 0.1%, more preferably about 90% to about 10% by weight of the at least one additional filler.

In addition to the polymer and the filler of the invention, the filled polymer used in the polymer composites can include one or more additives. Suitable additives include surfactants, blowing agents, flame retardants, pigments, antistatic agents, reinforcing

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fibers (e.g. glass fibers), antioxidants, preservatives, water scavengers, acid scavengers, and the like. In addition, coupling agents can be used with the fly ash fillers of the invention for certain polymers. Suitable coupling agents include silanes, titanates, zirconates and organic acids.

The polymer composites including the filled polymer of the invention can be used in carpet backing, shingles and asphalt products, automotive products (e.g. sheet molding compounds, bulk molding compounds and injection molded thermoplastic parts), commodity and engineering plastics, pipe, conduit, polymer concrete, vinyl flooring, rubber matting and other rubber products, paints, coatings, caulks, putties, dry-wall jointing compounds, adhesives, mastics and sealants. The polymer composite can include additional materials in combination with the filled polymer as would be readily understood to those skilled in the art.

Hemmings et al disclose all components of the presently claimed invention. No patentable difference is readily ascertained. See col. 1, line 50 through col. 3, line 65 and col. 7, line 26 through col. 9, line 39

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17- 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hemmings et al as applied to claims 17- 36 and further in view of Spain et al, US Patent No. 5,662,977 and Miller et al, US Patent No. 4,844,849.

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Spain et al discloses a process for making extruded plastic siding panels with embossed decorative wood grain surfaces. The process is useful in the manufacture of outdoor weatherable embossed plastic siding panels used for the surfacing of frame buildings or other outdoor structures. The invention will be described in relation to its use in the manufacture of extruded vinyl (PVC) siding panels, although the invention is equally applicable to the manufacture of panels made from other extrudable plastic substrate materials such as polystyrene, acrylonitrile-butadiene-styrene (ABS), nylon, ethylene-vinyl acetate (EVA), polycarbonate, polyethylene, polypropylene, polyethylene terephthalate, thermoplastic olefins, acrylonitrile-styrene-acrylic (ASA), and alloys, blends or coextrusions of these resins. See col. 3, line 16 through col. 4, line 40.

Miller et al discloses printable compositions and processes for producing embossed decorative thermoplastic resin sheets therewith. Exemplary sheets include those fashioned to resemble raised terra cotta brick set in a debossed gray mortar line. See Example 9 and claims 1-11.

Spain et al and Miller et al document that embossed and terra cotta panels and sheets are conventionally processed from the thermoplastic materials disclosed by Hemmings et al. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to formulate such products from the resin compositions disclosed by Hemming et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-

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1122. The examiner can normally be reached on Monday through Thursday 8:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kriellion A. Sanders
Primary Examiner
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